- 37 -

[CLAIMS]

We claim

1. An ink jet recording material comprising a support and at least one ink receiving layer comprising a binder and a compound according to formula (I):

$$A \xrightarrow{C} \xrightarrow{L} \xrightarrow{n} \xrightarrow{m} Y \xrightarrow{R^1}$$
formula (I)

10

15

20

25

wherein

$$X \xrightarrow{C} L \xrightarrow{D} M Y \xrightarrow{R^1} R^1$$

is exclusive of a nitrogen-nitrogen or nitrogen-oxygen bond, and wherein A is represented by following formula:

wherein,

Q represents the necessary atoms to complete a five- or six-membered ring; R^2 to R^5 independently represent a substituted or unsubstituted C1 to C6 aliphatic group; Z is selected from the group consisting of hydrogen, a substituted or unsubstituted aliphatic group, an acyl group, an oxy radical, a hydroxyl group, an alkoxy group and an acyloxy group; L is a divalent linking group linked to a carbonyl group; X and Y are independently selected from an oxygen and NR^6 , wherein R^6 is selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted

heteroaromatic group; X is linked to A via one of the atoms of Q; R^1 represents a non-aromatic moiety comprising at least two hydroxyl groups; and n and m independently represent 1 or 0.

2. An ink jet material according to claim 1 wherein A in said compound according to formula (I) is represented by:

$$\begin{array}{c|c}
R4 & & \\
R5 & & \\
R5 & & \\
Z & & \\
\end{array}$$

wherein T represents a carbon, a silicon, a phosphorus or a nitrogen atom, which is linked to X by a single or a double bound.

- 3. An ink jet recording material according to claim 2 wherein \mbox{R}^6 and \mbox{R}^7 are both a hydrogen atom.
- 4. An ink jet recording material according to claim 3 wherein R⁸ is selected from the group consisting of optionally substituted polyhydroxy tetrahydro-pyrans, optionally substituted polyhydroxy tetrahydrofurans, polyhydroxy straight chain alkyl groups, polyhydroxy branched alkyl groups, polyhydroxy alkyl groups substituted with optionally substituted tetrahydropyran groups and polyhydroxy alkyl groups substituted with optionally substituted tetrahydrofuran groups.
- 5. An ink jet recording material according to claims 4 wherein said recording material further comprises a pigment in at least one ink receiving layer.
 - 6. An ink jet recording material according to claim 5 wherein said pigment is an inorganic pigment.

10

10

15

20

25

. . - 39 -

- 7. An ink jet recording material according to claim 6 wherein said inorganic pigment is chosen from the group consisting of silica, alumina, alumina hydrate, and aluminum trihydroxide.
- 8. An ink jet recording material according to claim 7 wherein said binder is a polyvinyl alcohol.
 - 9. An ink jet recording material according to claim 8 wherein the ink receiving layer is a double layer and the compound according to general formula (I) is incorporated in the upper ink receiving layer.
 - 10. An ink jet recording material comprising a support and at least one ink receiving layer comprising a binder and a compound according to formula (III):

$$R^6$$
 R^7
 R^8
 R^4
 R^5
 R^3
 R^2

formula (III)

wherein,

$$R^6$$
 N
 R^7
 R

is exclusive of a nitrogen-nitrogen or nitrogen-oxygen bond, and wherein

 R^2 to R^5 independently represent a substituted or unsubstituted C1 to C6 aliphatic group;

Z is selected from the group consisting of hydrogen, a substituted or unsubstituted aliphatic group, an acyl group, an

oxy radical, a hydroxyl group, an alkoxy group and an acyloxy group; R⁶ is selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group, and a substituted or unsubstituted heteroaromatic group; R⁷ represents a non-aromatic moiety comprising at least two hydroxyl groups; R⁸ is selected from the group consisting of hydrogen, substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group.

10

25

5

- 11. An ink jet recording material according to claim 10 wherein ${\mbox{R}}^6$ and ${\mbox{R}}^7$ are both a hydrogen atom.
- 12. An ink jet recording material according to claim 11 wherein R⁸ is selected from the group consisting of optionally substituted polyhydroxy tetrahydro-pyrans, optionally substituted polyhydroxy tetrahydrofurans, polyhydroxy straight chain alkyl groups, polyhydroxy branched alkyl groups, polyhydroxy alkyl groups substituted with optionally substituted tetrahydropyran groups and polyhydroxy alkyl groups substituted with optionally substituted tetrahydrofuran groups.
 - 13. An ink jet recording material according to claim 12 wherein said recording material further comprises a pigment in at least one ink receiving layer.
 - 14. An ink jet recording material according to claim 13 wherein said pigment is an inorganic pigment.
- 15. An ink jet recording material according to claim 14 wherein said inorganic pigment is chosen from the group consisting of silica, alumina, alumina hydrate, and aluminum trihydroxide.
- 16. An ink jet recording material according to claims 15 wherein said binder is a polyvinyl alcohol.

5

- 41 -

- 17. An ink jet recording material according to claim 16 wherein the ink receiving layer is a double layer and the compound according to general formula (I) is incorporated in the upper ink receiving layer.
- 18. An ink jet recording material comprising a support and at least one ink receiving layer comprising a binder and a compound according to formula (IV):

$$\begin{array}{c|c}
R^6 & & & R^7 \\
\hline
R^8 & & & R^8 \\
R^5 & & & & R^2 \\
\end{array}$$

formula (IV)

wherein,

$$R^6$$
 N
 R^7
 R^8

15

20

25

10

is exclusive of a nitrogen-nitrogen or nitrogen-oxygen bond, and wherein

 ${\mbox{R}}^2$ to ${\mbox{R}}^5$ independently represent a substituted or unsubstituted C1 to C6 aliphatic group;

Z is selected from the group consisting of hydrogen, a substituted or unsubstituted aliphatic group, an acyl group, an oxy radical, a hydroxyl group, an alkoxy group and an acyloxy group; R⁶ is selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group, and a substituted or unsubstituted heteroaromatic group; R⁷ represents

a non-aromatic moiety comprising at least two hydroxyl groups; R^8 is selected from the group consisting of hydrogen, substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group.

5

20

35

- 19. An ink jet recording material according to claim 18 wherein ${\ensuremath{R}}^6$ and ${\ensuremath{R}}^7$ are both a hydrogen atom.
- 20. An ink jet recording material according to claim 19 wherein R⁸ is selected from the group consisting of optionally substituted polyhydroxy tetrahydro-pyrans, optionally substituted polyhydroxy tetrahydrofurans, polyhydroxy straight chain alkyl groups, polyhydroxy branched alkyl groups, polyhydroxy alkyl groups substituted with optionally substituted tetrahydropyran groups and polyhydroxy alkyl groups substituted with optionally substituted tetrahydrofuran groups.
 - 21. An ink jet recording material according to claim 20 wherein said recording material further comprises a pigment in at least one ink receiving layer.
 - 22. An ink jet recording material according to claim 21 wherein said pigment is an inorganic pigment.
- 23. An ink jet recording material according to claim 22 wherein said inorganic pigment is chosen from the group consisting of silica, alumina, alumina hydrate, and aluminum trihydroxide.
- 24. An ink jet recording material according to claim 23 wherein said binder is a polyvinyl alcohol.
 - 25. An ink jet recording material according to claim 24 wherein the ink receiving layer is a double layer and the compound according to general formula (I) is incorporated in the upper ink receiving layer.
 - 26. A compound according to following formula:

gn02117

- 43 -

$$\begin{array}{c|c}
R^{6} & & & R^{7} \\
R^{6} & & & N \\
\hline
R^{7} & & N \\
R^{8} & & N \\
R^{7} & & N \\
R^{8} & & R^{8}
\end{array}$$

wherein,

$$R^6$$
 N
 N
 R^7
 R^8

5

10

15

20

is exclusive of a nitrogen-nitrogen or nitrogen-oxygen bond, and wherein

 $\ensuremath{\text{R}}^2$ to $\ensuremath{\text{R}}^5$ independently represent a substituted or unsubstituted C1 to C6 aliphatic group;

Z is selected from the group consisting of hydrogen, a substituted or unsubstituted aliphatic group, an acyl group, an oxy radical, a hydroxyl group, an alkoxy group and an acyloxy group; R⁶ is selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group, and a substituted or unsubstituted heteroaromatic group; R⁷ represents a non-aromatic moiety comprising at least two hydroxyl groups; R⁸ is selected from the group consisting of hydrogen, substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group.

27. A compound according to following formula:

$$\begin{array}{c|c}
R^6 & & & R^7 \\
\hline
R^8 & & & R^8 \\
R^5 & & & & R^2 \\
\end{array}$$

wherein,

5

10

15

$$R^6$$
 N
 R^7
 R^8

is exclusive of a nitrogen-nitrogen or nitrogen-oxygen bond, and wherein

 \mbox{R}^2 to \mbox{R}^5 independently represent a substituted or unsubstituted C1 to C6 aliphatic group;

Z is selected from the group consisting of hydrogen, a substituted or unsubstituted aliphatic group, an acyl group, an oxy radical, a hydroxyl group, an alkoxy group and an acyloxy group; R⁶ is selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group, and a substituted or unsubstituted heteroaromatic group; R⁷ represents a non-aromatic moiety comprising at least two hydroxyl groups; R⁸ is selected from the group consisting of hydrogen, substituted or unsubstituted, saturated or unsaturated aliphatic group, a substituted or unsubstituted aromatic group.